

E1
a buffering unit having a buffering chamber having a volume at least equal to the injection quantity of the resin per shot, said buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit, and said buffering unit feeding a measured amount of the resin held in the buffering chamber into the injecting unit after injection by the injection unit,

a plunger reciprocatably in said buffering unit, and
a detecting sensor detecting a position of the plunger.

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36. (Amended) A thermoplastic resin injection molding machine comprising:
a plasticating unit for plasticating a thermoplastic resin,
an injecting unit connected to the plasticating unit through a connection passage to inject the plasticated resin into a mold,

a buffering unit having a buffering chamber having a volume at least equal to the injection quantity of the resin per shot, said buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit, said buffering unit feeding a measured amount of the resin held in the buffering chamber into the injecting unit after injection by the injection unit, and

a pressure sensor detecting a pressure in said buffering chamber wherein resin pressure is controlled to be constant in the buffering unit based upon detected pressure.

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42. (Amended) A thermoplastic resin injection molding machine comprising:
a plasticating unit for plasticating a thermoplastic resin,

an injecting unit connected to the plasticating unit through a connecting passage to inject the plasticated resin into a mold,

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a buffering unit having a buffering chamber having a volume at least equal to the injection quantity of the resin per shot, said buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit, and said buffering unit feeding a measured amount of the resin held in the buffering chamber into the injecting unit after injection by the injection unit,

a reciprocating screw in said plasticating unit, and
a position detecting sensor detecting a position of said screw to control the amount of resin input to the buffering chamber.

48. (Amended) A thermoplastic resin injection molding machine comprising:
a plasticating unit for plasticating a thermoplastic resin,
an injecting unit connected to the plasticating unit through a connecting passage to inject the plasticated resin into a mold,
a buffering unit having a buffering chamber having a volume at least equal to the injection quantity of the resin per shot, said buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit, and said buffering unit feeding a measured amount of the resin held in the buffering chamber into the injecting unit after injection by the injection unit,

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a reciprocating screw in said plasticating unit,
a reciprocating piston rod connected to said screw, and

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a position detecting sensor detecting a position of said piston rod to control the amount of resin input to the buffering chamber.

54. (Amended) A thermoplastic resin injection molding machine comprising:
a plasticating unit for plasticating a thermoplastic resin,
an injecting unit connected to the plasticating unit through a connecting passage to inject the plasticated resin into a mold,

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a buffering unit having a buffering chamber having a volume at least equal to the injection quantity of the resin per shot, said buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit, and said buffering unit feeding a measured amount of the resin held in the buffering chamber into the injecting unit after injection by the injection unit, the buffering chamber provided in said plasticating unit, and

a pressure sensor detecting a pressure in said buffering chamber wherein resin pressure is controlled to be constant in the buffering chamber based upon detected pressure.

60. (New) A thermoplastic resin injection molding machine comprising:
a plasticating unit for plasticating a thermoplastic resin,
an injecting unit connected to the plasticating unit through a connecting passage to inject the plasticated resin into a mold,

a buffering unit having a buffering chamber and receiving the resin plasticated in the plasticating unit,

wherein the buffering unit is contained in the plasticating unit and is located in a longitudinal direction of the plasticating unit.

61. (New) A thermoplastic resin injection molding machine as claimed in claim 60, wherein the buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit.

62. (New) A thermoplastic resin injection molding machine as claimed in claim 60, further comprising:

a screw contained in the plasticating unit, and
a position detecting sensor detecting a change in position of the screw.

63. (New) A thermoplastic resin injection molding machine as claimed in claim 62, wherein the screw is disposed to be moved forward and backward, and means for energizing the screw in the resin extrusion direction.

64. (New) A thermoplastic resin injection molding machine as claimed in claim 63, in which the energizing means comprises a spring.

65. (New) A thermoplastic resin injection molding machine as claimed in claim 63, in which the energizing means comprises a fluid-pressure cylinder.

66. (New) A thermoplastic resin injection molding machine as claimed in claim 63, in which the energizing means comprises an electric actuator.

67. (New) A thermoplastic resin injection molding machine as claimed in claim 60, further comprising a reciprocating screw provided in said plasticating unit, a position detecting sensor detecting a position of said reciprocating screw to control an amount of resin input to the buffering unit and a pressure sensor detecting a pressure in said buffering unit.

68. (New) A thermoplastic resin injection molding machine as claimed in claim 60, further comprising a screw contained in the plasticating unit, and a pressure detecting sensor detecting a pressure in said buffering unit.

69. (New) A thermoplastic resin injection molding machine as claimed in claim 68, wherein the screw is disposed to be moved forward and backward, and means for energizing the screw in the resin extrusion direction.

70. (New) A thermoplastic resin injection molding machine as claimed in claim 63, further comprising a screw driving motor for rotating the screw, wherein the screw and rotary shaft of the screw driving motor are separated from each other.

71. (New) A thermoplastic resin injection molding machine as claimed in claim 68, in which the energizing means comprises a spring.

72. (New) A thermoplastic resin injection molding machine as claimed in claim 68, in which the energizing means comprises a fluid-pressure cylinder.

73. (New) A thermoplastic resin injection molding machine as claimed in claim 68, in which the energizing means comprises an electric actuator.